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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,640	10/31/2003	Stephen Philip Cheatle	1509-456	8492

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EXAMINER

MADDEN, GREGORY VINCENT

ART UNIT

PAPER NUMBER

2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/697,640

Applicant(s)

CHEATLE ET AL.

Examiner

Gregory V. Madden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 6-11, 16-21, 29 and 31-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12-15, 22-28, and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Claims 6-9, 11, 16-21, 29, and 31-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on March 27, 2007. Further, claim 10 is also withdrawn from consideration, as it depends from claim 9, which is included in a nonelected species.

Applicant's election with traverse of Species I in the reply filed on March 27, 2007 is acknowledged. The traversal is on the ground(s) that there would not be a serious burden on the Examiner to search all species claimed, and that Species II and IV both pertain to embodiments using moveable reflectors, and therefore can be covered in a single search without serious burden. This is not found persuasive because the use of multiple image sensing units, single reflectors, multiple reflectors, or wide-angle lens units each require substantially different searches and therefore place a burden on the Examiner. A search for each individual species would be required, thus placing undo burden on the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites the limitation "the buffer memory" in Line 6 of the claim. There is insufficient antecedent basis for this limitation in the claim, as there is no reference to a buffer memory elsewhere in claim 28, nor anywhere in claim 24 (from which claim 28 depends). Regardless, for examination purposes, the claim will be interpreted to read "a buffer memory" and be examined as such.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 12-15, 22, 24-27, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Stuttler (U.S. Pat. 6,580,448).

First, in regard to **claim 1**, the Stuttler reference teaches an apparatus for controlling recording of an image of a scene viewed by a person comprising an optical sensor arrangement (cameras 3) for simultaneously deriving image segments corresponding to images of a scene seen by the person (1) looking forward of his head and to at least one side of his head (both left and right), and a detector arrangement (eye-direction sensors 4) for controlling which of the image segments is to be recorded dependent on an estimation of the pointing direction of the eyes of the person. Please refer to Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

As for **claim 2**, the limitations of claim 1 are taught above, and Stuttler also teaches that the optical sensor arrangement is arranged for simultaneously deriving image segments corresponding with images of scenes seen by the person simultaneously looking to both sides of his head (via cameras 3 on the right and left sides of the person's head), as is again shown in Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

Considering **claim 3**, the limitations of claim 2 are taught above, and the Stuttler reference discloses that the optical sensor arrangement is adapted to be worn by the person (via mount 6) and to turn with turning of the head of the person, as is shown in Fig. 1 and Col. 10, Lines 12-51.

Regarding **claim 4**, the limitations of claim 2 are again shown above, and Stuttler teaches that the optical sensor arrangement includes plural separate sensors (two cameras 3) arranged to have different fields of view corresponding approximately with scenes the person sees looking forward and to both sides of his head (1), as is taught in Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

As for **claim 5**, the limitations of claim 4 are taught above, and the Stuttler reference discloses that the plural optical sensors are adapted to be worn by the person (via mount 6) and to turn with turning of the head of the person, as is shown in Fig. 1 and Col. 10, Lines 12-51.

Next, considering **claim 12**, the Stuttler reference teaches an apparatus for controlling recording of an image of a scene viewed by a person comprising an optical sensor arrangement including plural optical sensors (cameras 3) for images corresponding to images of a scene seen by the person (1) looking forward of his head and to at least one side of his head (both left and right), and a detector arrangement (eye-direction sensors 4), including a sensor for the rotation of the head of the person, for controlling which of the images is to be recorded. Please refer to Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

In regard to **claim 13**, the Stuttler reference discloses the limitations of claim 12 above, and Stuttler further shows that the plural optical sensors (3) are arranged to have different fields of view (one

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field of view on the right side of the person's head, the other on the left side of the person's head) and are arranged for simultaneously deriving the images corresponding with the images of scenes seen by the person looking forward of his head and to at least one side of his head. Please refer to Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

Regarding **claim 14**, the limitations of claim 22 are again shown above, and Stuttler teaches that the optical sensor arrangement includes several optical sensors (two cameras 3) arranged to have different fields of view corresponding approximately with scenes the person sees looking forward and to both sides of his head (1), as is taught in Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

As for **claim 15**, the limitations of claim 12 are taught above, and the Stuttler reference discloses that the plural optical sensors are adapted to be worn by the person (via mount 6) and to turn with turning of the head of the person, as is shown in Fig. 1 and Col. 10, Lines 12-51.

In regard to **claim 22**, the limitations of claim 12 are again taught above, and Stuttler further teaches that the optical sensor arrangement includes first and second optical sensors (cameras 3 arranged on the left and right side of the person's head) positioned so that they have different fields of view so that the first optical sensor is arranged to be responsive to images corresponding with images of scenes seen by the person looking forward of his head, and the second optical sensor is arranged to be responsive to images corresponding with images of scenes seen by the person looking to a first side of his head. Please refer once again to Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

Next, considering **claim 24**, the Stuttler reference teaches a method of recording an image of a scene by using an optical sensor arrangement (cameras 3) for simultaneously deriving image segments corresponding to images of a scene seen by the person (1) looking forward of his head and to at least one side of his head (both left and right), with a detector arrangement (eye-direction sensors 4) for controlling which of the image segments is to be recorded in response to an estimation of the pointing direction of the

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eyes of the person. Please refer to Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

As for **claim 25**, the limitations of claim 24 are taught above, and Stuttler also teaches that the optical sensor arrangement is arranged for simultaneously deriving image segments corresponding with images of scenes seen by the person simultaneously looking to both sides of his head (via cameras 3 on the right and left sides of the person's head) and the controlling step records one of the images, as is again shown in Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

In regard to **claim 26**, the limitations of claim 25 are taught above; and Stuttler teaches that the optical sensor arrangement includes plural separate sensors (two cameras 3) arranged to have different fields of view corresponding approximately with scenes the person sees looking forward and to both sides of his head (1), as is taught in Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

Considering **claim 27**, the limitations of claim 26 are set forth above, and Stuttler also discloses that the optical sensor arrangement can include a wide-angle lens (wide-angle optical system) having a field of view corresponding with scenes seen by the person looking forward of his head and to both sides of his head, the method comprising selecting only a portion of the wide angle lens field of view in response to the control of the detector arrangement. Please refer to Col. 3, Lines 37-45.

Finally, in regard to **claim 30**, the Stuttler reference teaches a method of recording of an image of a scene viewed by a person by using an optical sensor arrangement including plural optical sensors (cameras 3) for images corresponding to images of a scene seen by the person (1) looking forward of his head and to at least one side of his head (both left and right), the method comprising selecting one of the images of the sensor arrangement in response to rotation of the head of the person, and recording the selected image. Please refer to Fig. 1, Col. 2, Lines 2-50, Col. 7, Lines 23-39, and Col. 10, Lines 12-51.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stuttler (U.S. Pat. 6,580,448) in view of Campbell (U.S. Pat. 4,516,157).

Considering **claim 23**, the limitations of claim 12 are taught above, and while the Stuttler reference does teach that the optical sensor arrangement includes first and second optical sensors (cameras 3 as shown in Fig. 1), Stuttler does not explicitly teach that the optical sensor arrangement includes first, second and third optical sensors, the first sensor being arranged to capture images of scenes seen by the person looking forward of his head, the second sensor capturing images seen by the person looking to a first side of his head, and the third sensor capturing images seen by the person looking to a second side of his head. However, the Campbell reference teaches an optical sensor arrangement that includes a first sensor (CCD 20), a second sensor (CCD 48) and a third sensor (also CCD 48), each sensor positioned to have different fields of view (as shown in Fig. 3). Please refer to Figs. 1-3, Col. 2, Lines 46-51, and Col. 3, Lines 49-59. It would have been obvious to one of ordinary skill in the art to have included a third optical sensor, as is shown by Campbell, to the optical sensor arrangement of Stuttler. One would have been motivated to do so because, as Stuttler teaches in Col. 2, Lines 59-64, a geometric correction is needed when the optical sensors are located on each sides of the person's head so as to accurately capture and focus on the scene that the person is actually viewing. A third optical sensor between the sensors on either side of the person's head would greatly reduce the correction calculation and thus record an image that more accurately portrays what the person is viewing.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stuttler (U.S. Pat. 6,580,448) in view of Mann (U.S. Pat. 6,307,526).

Finally, in regard to **claim 28**, the limitations of claim 24 are set forth above, and while the Stuttler reference does teach the storing of plural sequential images corresponding with images of scenes seen by the person looking forward of his head and to at least one side of his head (see Col. 10, Lines 47-51), Stuttler fails to teach the changing of which of the stored plural sequential images in a buffer memory is transferred to the recorder immediately prior to and subsequent to the head of the person turning. However, the Mann reference teaches an optical sensor arrangement (cameras 110 and 120) that capture and store plural sequential images corresponding with images of scenes seen by a person looking forward of his head and to a side of his head, wherein the stored plural sequential images are stored in a buffer memory (circular buffer) and are selected to be transferred to a recorder at any point prior to or subsequent to the head of the person turning, as the person selects when the images stored in the buffer memory are transferred. Please refer to Fig. 1, Col. 3, Lines 33-45, Col. 6, Lines 22-34, and Col. 11, Lines 30-38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the storing of images in a buffer memory, as taught by Mann, with the method of storing plural sequential images of Stuttler. One would have been motivated to do so because by storing the plural sequential images in a buffer memory and selecting which of the images stored in the buffer memory are transferred to the recorder, no events which the user or another viewer may want to capture are missed, as taught by Mann in Col. 3, Lines 33-45.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Balding et al. (U.S. Pat. 3,542,457)

Maquire Jr. (U.S. Pat. 6,307,589)

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Tsuboi et al. (U.S. Pat. 5,610,678)

Winningstad (U.S. Pat. 5,886,739)

Ishibashi et al. (U.S. Pat. 6,215,461)

Matsui (U.S. Pat. 6,549,231)

Ishikawa (U.S. Pat. 6,657,673)


Grosvenor et al. (U.S. Pat. 7,030,909)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory V. Madden whose telephone number is 571-272-8128. The examiner can normally be reached on Mon.-Fri. 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Madden
April 11, 2007


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER